



CUULONG JOINT OPERATING COMPANY

# MATERIAL SAFETY DATA SHEET

## SUTUDEN CRUDE OIL

Rev.: 6 Date: 07 February 2022

Important: Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product.

### 1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME SUTUDEN CRUDE OIL

TRADE NAME (s): SUTUDEN CRUDE OIL

COMPANY IDENTIFICATION

#### CUU LONG JOC

3<sup>rd</sup> Floor, Saigon Paragon building, 03 Nguyen Luong Bang street, Dist.7, Ho Chi Minh City, Viet Nam

Phone: 84-28-5417 6666

Fax: 84-28-5417 0417

EMERGENCY TELEPHONE NUMBER(S): 84-28-5417 6666

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Our hazard evaluation has identified the following chemical substance(s) as hazardous. Consult Section 15 for the nature of the hazard(s).

Hazardous ingredient	CAS Number	EC Number	Chemical formular	Approximate Concentration
Crude Oil	8002-05-9	232-298-5	CLJOC complex mixture of hydrocarbon crude oil	100 (% w/w)
Pentane	109-66-0	203-692-4	C <sub>5</sub> H <sub>12</sub>	46 (% w/w)
Hexane	110-54-3	203-777-6	C <sub>6</sub> H <sub>14</sub>	32 (% w/w)
Benzene	71-43-2	200-753-7	C <sub>6</sub> H <sub>6</sub>	3.2 (% w/w)
Hydrogen Sulphide	7783-06-04	231-977-3	H <sub>2</sub> S	<1 ppm

### 3. HAZARDS IDENTIFICATION

#### 3.1 Hazardous Ranking:

**Class IA flammable liquid.**

(Flash point below 73 °F and a boiling point below 100 °F)

**NFPA RATING :**

HEALTH : 2 ; FLAMMABILITY : 3 ; REACTIVITY : 0 ; SPECIAL HAZARDOUS : -  
(0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme)

#### 3.2 Hazardous Warning

**IMMEDIATELY HAZARDOUS  
WARNING!  
HIGHLY FLAMMABLE LIQUID AND VAPOR!**

Avoid breathing vapors or mists, if swallowed, do not induce vomiting since aspiration into the lungs may cause chemical pneumonia.

Product may cause:

- irritation or more serious skin disorders
- irritation of the nose, throat, and lungs, headache, dizziness, drowsiness, loss of coordination, fatigue, nausea and labored breathing could become harmful if inhaled
- Irregular heartbeats.

To avoid prolonged or repeated liquid, mist, and vapor contact with eyes, skin, and respiratory tract.

Hydrogen sulphide content in this material is very low (H<sub>2</sub>S is very poisonous with high evaporation as well & may accumulate in enclosed air spaces)

Crude oil contains some polycyclic aromatic hydrocarbons which have been shown to be carcinogenic after prolonged or repeated skin contact.

Follow the safety rules applicable to H<sub>2</sub>S when exposed or entering STORAGE/TANKS with such product.



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### ROUTED AND EXPOSURE

#### EYE CONTACT

The eye irritation potential of this substance has not been determined. However, it may be slightly irritating to the eyes and could cause prolonged impairment of your vision. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment.

#### SKIN CONTACT

It is expected to cause no more than minor skin irritation, but prolonged or frequently repeated skin contact may be harmful.

#### INGESTION

Product may cause irritation of the mouth, throat and gastrointestinal tract leading to nausea, vomiting, diarrhea, and restlessness, as well as headache, dizziness, drowsiness, loss of coordination, fatigue, nausea and labored breathing.

#### ASPIRATION HAZARD:

Aspiration into the lungs may cause chemical pneumonia. This material can enter the lungs during swallowing or vomiting and may cause lung inflammation and damage which in severe cases may be fatal.

#### INHALATION

Breathing the vapor may be irritating to the respiratory tract.

Prolonged breathing of vapors can cause central nervous system effect.

Exposure to moderate airborne concentrations of hydrogen sulfide (less than 50 ppm) can result in irritation of the eyes, nose and throat, headache, dizziness, shortness of breath, nausea and nervousness.

Exposure to Benzene can cause cancer, damage lungs, and blood abnormalities with central nervous system effects.

#### CHRONIC HAZARDS AND SPECIAL HEALTH EFFECTS

Prolonged / repeated skin exposure, inhalation or ingestion of this material may result in adverse dermal or systemic effects. Avoid prolonged or repeated exposure. May be harmful if absorbed through the skin, prolonged or repeated contact may create cancer risk, organ damage, and adversely affect reproduction, fetal development and fetal survival. Avoid all skin contact.

Neurotoxic effects have been associated with n-hexane, a component of this material. Avoid prolonged or repeated exposure.

## 4. FIRST AID MEASURES

#### EYE CONTACT

##### PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT.

Immediately flush eye with water for at least 15 minutes while holding eyelids open. If only one eye is affected be sure to use care not to contaminate the other eye with the run-off. If irritation persists, repeat flushing. Get immediate medical attention.

#### SKIN CONTACT

Remove contaminated clothing and shoes and wipe excess from skin. Flush skin with water, then wash with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned.

#### INGESTION

Do not induce vomiting since aspiration into the lungs may cause lipid pneumonia. In general, no treatment is necessary unless large quantities of product are ingested. However, can drink 2-3 glasses of milk or water, keep warm and get medical attention.

#### INHALATION

Remove victim to fresh air and provide oxygen if breathing is difficult. Seek get medical attention immediately.

#### NOTE TO PHYSICIAN

In general, emesis induction is unnecessary in high viscosity, low volatility products such as oils and greases.

## 5. FIRE FIGHTING MEASURES

**HIGHLY FLAMMABLE OSHA / NFPA Class: IA flammable liquid.**

**KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME! CONTAINS PETROLEUM DISTILLATES**

**FLASH POINT <0°C**

**FLAMABLE RANKING: extreme easy to fire. NFPA Hazard Rating: 3**

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**PRODUCT PRODUCED FROM FIRE:**

Carbon dioxide, carbon monoxide, lead, nitrogen oxides, particulate matter, polycyclic aromatic hydrocarbon, sulfur dioxide and volatile organic compounds.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

Thermal decomposition products are highly dependent on combustion conditions. A complex mixture of airborne solids, liquids and gases will evolve when this material undergoes pyrolysis or combustion. Aldehydes, Carbon Monoxide, Carbon Dioxide, Hydrogen Sulfide, Ketones and other unidentified organic compounds may be formed upon combustion.

**CAUSE OF FIRE:**

Open flame, static charge and high temperature

**EXTINGUISHING MEDIA**

Material will float and can be re-ignited on surface of water. Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO2) to extinguish flames. Do not use a direct stream of water.

**FIRE EXTINGUISHING INSTRUCTION**

For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of combustion products and oxygen deficiencies. Cool tanks and containers exposed to fire with water. Improper use of water and extinguishing media containing water may cause frothing which can spread the fire over a larger area. Water fog or sprays are of value for cooling tank shells and surfaces exposed to fire, but may not achieve extinguishment.

**6. ACCIDENTAL RELEASE MEASURES**

**PROTECTIVE MEASURES:**

May burn although not readily ignitable; wear appropriate personal protective equipment when cleaning up spills. Restrict access to area as appropriate until clean-up operations are complete. Stop or reduce any leaks if it is safe to do so. Ventilate spill area if possible. Ensure clean-up is conducted by trained personnel only. Do not touch spilled material. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Notify appropriate government, occupational health and safety and environmental authorities

**SPILL MANAGEMENT:**

**FOR LARGE SPILLS:**

Remove with vacuum truck or pump to storage/salvage vessels.

**FOR SMALL SPILLS:**

Soak up residue with an absorbent such as clay, sand or other suitable material. Place in retaining area or non-leaking container and flush with water into. Seal tightly and avoid exposure to sparks, fire or hot metal surface for proper disposal.

**ENVIRONMENTAL PRECAUTIONS**

Prevent material from entering sea, river, sewers or waterways. Spilled product may pose a risk to the aquatic ecosystem if released. If drains, streams, soil or sewers become contaminated, notify local authority.

The product with high melting point, it is easily to become thick form in sea water. It is low density and usually to float on surface water so using dispersant in spills is not effective.

**7. HANDLING AND STORAGE**

**PRECAUTIONARY MEASURES:**

Keep away from: heat, sparks, and open flame.

Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet. Launder contaminated clothing before reuse. Properly dispose of contaminated leather articles such as shoes or belts that cannot be decontaminated. Avoid heat, open flames, including pilot lights, and strong oxidizing agents. Use explosion-proof ventilation to prevent vapor accumulation. Ground all handling equipment to prevent sparking.

**STORAGE:**

Storage at ambient temperature in a cool, dry place with adequate ventilation

Transport at ambient temperature.

Load & unload at ambient temperature.

Keep away from open flames and high temperatures.



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### CONTAINER WARNINGS:

Keep containers closed when not in use. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations on or near containers.

### HANDLING

Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Do not breathe vapors/gases/dust. Keep the containers closed when not in use. Have emergency equipment (for fires, spills, leaks, etc.) readily available. Ensure all containers are labelled. Avoid breathing vapors from headspace of newly opened containers.

### STORAGE CONDITIONS

Store in suitable labeled containers, to be tightly closed.

SUITABLE CONSTRUCTION MATERIAL: As per applicable regulation at time of construction

UNSUITABLE CONSTRUCTION MATERIAL: As per applicable regulation at time of construction

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### OCCUPATIONAL EXPOSURE LIMITS

Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

#### OCCUPATIONAL EXPOSURE LIMITS

	PEL- TWA ( ppm)		STEL (ppm)	
	OSHA	VN Standard	OSHA	VN Standard
Crude oil	400			
Benzene	0.5	1.6	2.5	4.7
Hydrogene sulfide	10	7	20	10

### EXPOSURE CONTROLS

Adequate ventilation to control airborne concentrations below the exposure limits.

### PERSONAL PROTECTION

Personal protective equipment (PPE) selections vary based on potential exposure conditions such as handling practices, concentration and ventilation. Information on the selection of eye, skin and respiratory protection for use with this material is provided below.

### EYE PROTECTION:

Chemical goggles or Safety glasses with side shields

### SKIN PROTECTION:

Use protective clothing which is chemically resistant to this material. Selection of protective clothing depends on potential exposure conditions and may include gloves, boots, suits and other items. The selection(s) should take into account such factors as job task, type of exposure and durability requirements. The best protection is provided by: Neoprene, or Nitrile Rubber

### RESPIRATORY PROTECTION:

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	Liquid
APPEARANCE	black liquid
ODOR	hydrocarbon odor
SPECIFIC GRAVITY @ 60/60°F	~0.7995
API Gravity	~45.4°API
FLASH POINT	< 0°C
POUR POINT	~27°C

Note: These physical and chemical properties are typical values for this product and are subject to change.

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## 10. STABILITY AND REACTIVITY

### STABILITY

Material is stable under normal conditions.

### CONDITIONS TO AVOID:

Avoid heat and open flames.

### MATERIALS TO AVOID:

Avoid contacting with strong oxidizing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition products are highly dependent on combustion conditions, upon combustion.

## 11. TOXICOLOGICAL INFORMATION

Effects of Acute Exposure: Vapour may cause irritation of eyes, nose and throat, dizziness and drowsiness. Contact with skin may cause irritation and possibly dermatitis, absorbed through contact with skin. Contact of liquid with eyes may cause severe irritation.

Effects of Chronic Exposure: Due to presence of benzene and n-hexane, long term exposure may increase the risk of anaemia, leukemia and nervous system damage.

## 12. ECOLOGICAL INFORMATION

### ENVIRONMENTAL IMPACT SUMMARY:

There is no ecological data available for this product.  
This product is oil, is persistent and does not readily biodegrade.

## 13. DISPOSAL CONSIDERATIONS

Dispose of wastes in an approved incinerator or waste treatment/disposal site, in accordance with all applicable regulations. Do not dispose of wastes in local sewer or with normal garbage.

Empty drums should be taken for recycling, recovery, or disposal through a suitably qualified or licensed contractor.

## 14. TRANSPORT INFORMATION

### AIR TRANSPORT (ICAO/IATA)

Proper Shipping Name

PETROLEUM CRUDE OIL.

IATA Cargo Packing Instructions

As per IATA/ICAO Dangerous Goods Regulations applicable at time of shipment

### MARINE TRANSPORT (IMDG/IMO)

Proper Shipping Name

PETROLEUM CRUDE OIL.

UN/ID No

UN 1267

Hazard Class - Primary

3

Shipping / Transport

Specialized crude oil tankers or vessels. As per applicable regulations at time of shipping

## 15. REGULATORY INFORMATION

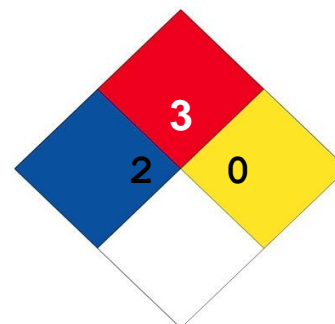
HAZARD SYMBOLS:

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Class IA flammable liquid



HEALTH: 2  
FLAMMABILITY: 3  
REACTIVITY: 0  
OTHER: No



## 16. OTHER INFORMATION

Note to reader:

This product material safety data sheet provides health and safety information.

The product is to be used in applications consistent with our product literature.

Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures should be evaluated so that appropriate handling practices and training programs can be established to insure safe workplace operations.

Prepared By: **Nguyen Quang Huy - HSE Manager of CLJOC**



A blue ink signature of Nguyen Quang Huy, written over a horizontal dashed line.

Date issued: 07 February 2022

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